UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,003	03/24/2004	Mikio Shiraishi	16869N-111400US	6791

20350 7590 02/02/2006

TOWNSEND AND TOWNSEND AND CREW, LLP
TWO EMBARCADERO CENTER
EIGHTH FLOOR
SAN FRANCISCO, CA 94111-3834

EXAMINER	
SEVER, ANDREW T	

ART UNIT	PAPER NUMBER
2851	

DATE MAILED: 02/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/809,003	SHIRAISHI ET AL.	
	Examiner	Art Unit	
	Andrew T. Sever	2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 October 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 March 2004* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 21-25 and 36-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa (US 6,657,680) in view of Barrick (US 5,095,606.)

Takizawa teaches in figures 5, 10, and 11, a projection type image display device comprising:

An illumination unit (413);

A light splitting unit (421 and 422), which divides illumination light emitted from the illumination unit into plural color components;

Plural light valves (44)

A synthesizing unit (45), which synthesizes the modulated light, rays output from the plural light valves;

A projection unit (46) which projects the resulting synthesized modulated light; and

Plural support holders, each of the support holders fixing one of the plural light valves and the synthesizing unit. (Parts 83 are support members)

Takizawa teaches in column 9 lines 12-15 that the support members (83) are made of transparent resin, however Takizawa does not teach that this polymer is a heat-melting polymer material. Barrick teaches in column 1 lines 10-19 that heat-melting polymer support members (stakes are commonly used in the electronics industry to join parts together. Barrick teaches in column 2 lines 30-63 a method of binding two parts together by melting (heat-fusion) the cap of the support member in such a way as to secure the parts together. In column 2 lines 64 through column 3 line 19, Barrick teaches that his method has the advantage over prior art fastening means that alignment is maintained and there is less chance of containment from the fastening means spreading to other components of the device. Given that it is desirous in assembly of a projection type image display device to maintain alignment between the light valves and synthesizing unit without introducing substantial contaminants, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to use the fastening means of Barrick to fix the light valves to the synthesizing unit of Takizawa.

With regards to applicant's claim 22:

The frames 81 are disclosed to be made of plastic which is frequently made by integral injection molding, further the apparatus Barrick uses to fastened them together is as described by Barrick formed to the devices via integral injection molding.

With regards to applicant's claim 23:

As shown in figures 3A-3C of Barrick the fastening means is tapered.

With regards to applicant's claim 24:

As stated in column 2 lines 64 through column 3 line 19 of Barrick, one of the advantages of Barrick's method is that alignment is maintained, in order for alignment to be maintained, one must have obviously aligned the two components prior to fixing them via Barrick's method as if they had not been aligned there would be no need to maintain alignment.

With regards to applicant's claim 25:

Part 82 of Takizawa has a groove for fixing a polarizing plate (419, visual angle compensating film which is specified in column 12 lines 30-36 to be made in one

embodiment of polarization films which together would meet the claimed limitation of a polarizing plate.)

With regards to applicant's claim 36:

The support member (82) of Takizawa is specified to be made of metal, while the light valve unit (81) of Takizawwa is specified to be made of resin, the melting points of the two materials as is well known are considerably different (see applicant's specification page 17 which teaches that one metal commonly used Magnesium alloy has a melting point of 650 degrees Celsius while a common resin used; polycarbonate has a melting point of 160 degrees Celsius, which is a difference of more then 40 degrees. See also column 9 lines 1-33 of Iinuma et al. US RE38,194) which teaches various materials that can be used of the light valve frame plate (light valve of Takizawa which includes polycarbonate and of use as the support member (fixing plate) including aluminum which ahs a known melting point of about 660 degrees Celsius.)

With regards to applicant's claims 37-40:

See above.

4. Claims 26-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Domroese et al. (US 2003/0058537) in view of Barrick (US 5,095,606.)

Domroese teaches in figures 1, 4, 5a-5c a projection type image display device comprising an illumination unit (150);

A light splitting unit (130 and part with 140 pointed at it), which divides illumination light emitted from the illumination unit into plural color components;

Plural light valves (452, 462, and 472) each of which modulates one of the plural color components;

A synthesizing unit (parts 130 and part with 140 pointed at it work as a synthesizing unit is the reverse direction) that synthesizes the modulated light rays output from the plural light valves, each unit including an upper surface and a lower surface;

A projection unit (120) which projects the resulting synthesized modulated light; and

Plural support holders formed of a heat-melting polymer material (paragraph 40 teaches that the carrier or support holders are made of a thermoplastic molded part);

Wherein each of the support holders is fixed to the upper surface and the lower surface of the synthesizing unit (see figures 5 which all show that they were fixed on both th top and bottom surface of the synthesizing unit (also see figure 3).

Domroese does not specifically teach that holders are fixed by heat-fusion of the fixing parts. Barrick teaches in column 1 lines 10-19 that heat-melting polymer support members are a common means in the electronics industry to join parts together

(Especially if they are made of thermoplastic). Barrack teaches in column 2 liens 30-63 a method of binding two parts together by melting the cap of the support member in such a way as to secure the parts together. In column2 line 64 through column 3 line 19, Barrick teaches that this method has the advantage over prior art fastening means that alignment is maintained and there is less chance of containments from the fasting means to spread to other components of the device. Given it is desirous not reduce contamination in the production of projection devices, it would have been obvious to one of ordinary skill in the art at the time the invention was made to us heat-fusion to bind the thermoplastic support holders to the synthesizing unit in Domroese as taught by Barrick.

With regards to applicant's claim 27 and 31:

At least the teaching of Barrick provides a teaching of forming the support holders (or at least a part thereof) by integral injection molding.

With regards to applicant's claim 28 and 32:

As shown in figures 3A-3C of barrack the fastening means is tapers, at least some of the fastening means of Domroese appear tapered.

With regards to applicant's claims 29, 30, and 33:

The display devices are attaches to a specific holder and obviously adjusted to form a good image.

With regards to applicant's claim 34:

Domroese does not teach that the holders contain a space of a polarizing plate, nor any of the other components of the modulator, however it is well know as evidenced by Takizawa that a polarizing plate is provided so that the light valve/prism combination works properly.

With respect to applicant's claim 35:

Clearly the modulated rays are not transmitted through the upper surface and lower surface of the synthesizing unit.

5. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa in view of Barrick as applied to claim 36 above, and further in view of Domroese et al.

As described in more detail above Takizawa in view of Barrick teaches a projection type image display device which among other things includes plural support holders. Takizawa in view of Barrick does not specifically teach that these holders are fixed to the upper and lower surface of the synthesizing unit. Domroese teaches in figure 3 and figures 5 such structures. Domroese teaches in paragraph 42 and 43 that such a structure allows for easy alignment and keeps from sensitive optical parts from touching or being out of alignment. Accordingly it would have been obvious to use such a fixing structure in the projection type image display device of Takizawa in view of Barrick.

Double Patenting

6. Applicant is advised that should claim 27 be found allowable, claim 31 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Response to Arguments

7. Applicant's arguments with respect to claims 26-35 and 41 have been considered but are moot in view of the new ground(s) of rejection.

8. Applicant's arguments filed 10/24/2005 have been fully considered but they are not persuasive.

Applicant argues that Takizawa in view of Barrick is much more complicated then applicant's disclosed invention, however applicant's claims do not claim that there are not pens, screws, adhesives, or other parts used to connect the various parts, only that the support holders are made of a polymer material (which inherently melts at some temperature) and are fixed to one of the light valves and synthesizing unit by heat-fusion of the polymer material. Since the pin of Barrick when insert through the frame to attach to the synthesizing unit becomes a part of the holder, at least that part meets applicant's

claim language since it is taught to be attached by heat-fusion. Accordingly applicant's arguments are not found persuasive.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Sever whose telephone number is 571-272-2128. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AS

William Perkey
Primary Examiner